DYNAMIS

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1.—Histories of antibiotic resistance. 2.—A therapy with side effects. 3.—The impact of resistance. 4.—A «wholly mysterious phenomenon». 5.—A revival. 6.—Conclusions.

ABSTRACT: It was in the 1940s that antibiotic resistance arose as an object of study for clinical medicine. Somewhat earlier it had become an important analytical tool for bacterial geneticists. However, the concept of antibiotic resistance as an induced and inheritable trait of microbial species was introduced a generation earlier in the years preceding the First World War.

The paper reconstructs the concept that was put forward by the German immunologist Paul Ehrlich in 1907. He came across the phenomenon when trying to develop chemotherapies for trypanosomiases, the best known of which is African sleeping sickness. However, resistance was studied by him

for other than therapy-related purposes. It provided a productive laboratory model for the study of cell functions. Induced resistance to chemicals facilitated the development of ideas on the relation of a parasite's cellular metabolism and of drug action, i.e. by providing a negative proof for the presence of chemoreceptors on the surfaces of parasite cells.
This approach also serves to explain why British and German researchers continued to study the phenomenon of induced resistance in microbes for decades —despite it being absent from clinical medicine. After all, there existed very few chemotherapies of infectious diseases prior to the arrival of the sulfa drugs. Moreover, resistance to these medicines was rarely observed. However, being part and parcel of Ehrlich's theories, his views on resistance were also criticised together with these. It was in particular Henry Dale who would challenge Ehrlich's views of resistance as an inheritable and stable trait of microbes. Instead, he insisted that understanding this «wholly mysterious phenomenon» required taking into account some host interaction. Induced resistance, which had come into being as a chance discovery in the chemotherapy of sleeping sickness, thus became one of the more important laboratory models of 20th-century immunological research. Its early history is largely discontinuous with later work, and antimicrobial resistance as it evolved from 1900 to 1940 followed other trajectories than those which became relevant after 1940.

Innovators, deep fermentation and antibiotics: promoting applied science before and after the Second World War

1.—Introduction. 2.—Know-how and deep-fermentation. 3.—Wartime. 4.—Post-war. 5.—Conclusion: on the disappearance of stories.

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ABSTRACT: This paper reviews and contrasts two strategies of infection control that emerged in response to the growing use of antibiotics within British hospitals, c.1946-1969. At this time, we argue, the hospital became an arena within which representatives of the medical sciences and clinical practices contested not so much the content of knowledge but the way that knowledge translated into practice. Key to our story are the conceptual assumptions about antibiotics put forward by clinicians, on the one hand, and microbiologists on the other. The former embraced antibiotics as the latest weapon in their fight to eradicate disease. For clinicians, the use of antibiotics were utilised within a conceptual frame that prioritised the value of the individual patient before them. Microbiologists, in contrast, understood antibiotics quite differently. They adopted a complex understanding of the way antibiotics functioned within the hospital environment that emphasised the relational and ecological aspects of their use. Despite their broader environmental focus, microbiologists focussed on the ways in which bacteria travelled led to ever greater emphasis being placed on the «healthy» body which, having been exposed to antibiotics, became a dangerous carrier of resistant staphylococcal strains. The surrounding debate regarding the appropriate use of antibiotics reveals the complex relationship between hospital, the medical sciences and clinical practice. We conclude that the history of hospital infections invites a more fundamental reflection on global hospital cultures, antibiotic prescription practices, and the fostering of an interdisciplinary spirit among the professional groups living and working in the hospital.

ABSTRACT: This article is an account of a screening programme in search of new antibiotics established by CEPA (Compañia Española de Penicilinas y Antibióticos) and Merck in Madrid in 1954. An exploration of the genealogy for such a programme, its narratives and practices, shows that the main inspiration

for this programme was the factory system of production, on the one hand, and Selman Waksman's research agenda on microorganisms of the soil, on the other. In this article, the relationship between industrial production of antibiotics and the research programme aimed at identifying new candidate drugs is examined. I suggest that this screening programme in search of new antibiotics was organised like industrial manufacturing. The research objects and tools came, both materially and conceptually, from industrial production: a line of artisanship put together in order to obtain a product with the collaboration of every member of the production line. Following the style developed by Selman Waksman in Rutgers, the screening programme evaluated samples manually, and microbiological skills were enhanced with every test. The Madrid team's practice of applying instructions for use led to the circulation of knowledge and practices, including research material and microbiological methods.

ARTICLES

ABSTRACT: Height is used by paediatricians and anthropologists as a measure of the health and well-being of human populations. Over the past few decades, it has been used by historians as an indicator of the biological standard of living in studies on the impact of environmental, social and economic transformations on well-being in the past. This article describes the historical contributions made by different specialists on this issue and compares the evolution of the height of men in France and Spain. Annual military recruitment data from the 1770s until the end of the 20th century show a secular trend in both countries and reveal cycles that result from periods of deterioration in health and nutritional status.

ABSTRACT: This article explores the important place occupied by the passions in the theoretical discourses and professional rhetoric of 19th century Spanish medicine. In order to expand their explanatory and therapeutic resources and, above all, to endorse their competence as experts in the study and management of the passions, Spanish physicians adopted and promulgated a number of postulates in this regard, including the relevance of physiological research, and

and the Report of 1904. 3.2.—Political intervention and the imperative of the fight against cancer 4.—Poruguese Institute of Oncology and the evolution of statistics and the true place of cancer. 5.—Final considerations.

ABSTRACT: This study aims to show the influence of statistical studies on the establishment of the fight against cancer in Portugal. Cancer visibility became more important due to statistic analyses, which took the form of reports in Portugal and were not always complete and frequently distant from reality. Although the impact of these reports was not felt immediately, they led over the medium-term to the establishment of the Portuguese Institute of Oncology, created in 1923 based on international models. New data obtained by the Institute allowed the correction of important errors in relation to the true presence of cancer in Portuguese health statistics in the 1930.

REVIEWS